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ABSTRACT

A study examined the degree to which children with limited English proficiency can benefit from English instruction in phonemic awareness and phoneme-grapheme correspondence. Subjects were 27 kindergarten children in a suburban northern California school--16 spoke Hmong as their primary language and the rest were monolingual English speakers. The comparison class consisted of 29 students, 17 of whom spoke Hmong as their primary language. Students in the intervention class received 20-minute lessons on both phonemic awareness and the alphabetic principle four to five times a week for eight weeks. Literacy instruction in the comparison class included a daily alphabet song or chant. Results indicated that: (1) students in the intervention group significantly improved in rhyming, segmenting, and blending skills from pretest to posttest; (2) students in the intervention class outperformed their comparison class counterparts on the phonemic awareness measures but not the letter name and letter sound measures; (3) English learners in the intervention class scored significantly higher than the English learners in the comparison class on rhyming and blending; (4) no significant correlations between English oral proficiency and phonemic awareness performance were seen; and (5) students in all classes showed significant improvement in understanding the alphabetic principle. Findings suggest that the intervention instruction was particularly beneficial to English learners, and that English language learners who are at the very initial stages of English language acquisition and who are from very low socioeconomic status backgrounds can learn phonemic awareness through explicit instruction. (Contains 21 references, and two tables and three figures of data.) (RS)

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Efficacy of Explicit English Instruction in Phonemic Awareness and the Alphabetic Principle for English Learners and English Proficient Kindergarten Children in Relationship to Oral Language Proficiency, Primary Language and Verbal Memory

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Purpose

An important question of both theoretical and instructional significance is the degree to which children with limited English proficiency can benefit from English instruction in phonemic awareness and phoneme-grapheme correspondence. This question was the focus of the present study. We investigated the relationships among (1) primary language and English language phonemic awareness, (2) English instruction in both phonemic awareness and the alphabetic principle and (3) English oral proficiency and phonemic awareness and phoneme- grapheme correspondence in kindergarten English language learners and monolingual-English speakers form very low socioeconomic backgrounds.

Research

Whether or not young children can benefit from phonological instruction in a second language as they are acquiring that language has been examined to only a very limited extent. A theoretical perspective suggesting that such learning may be possible can be synthesized from research in four areas of inquiry. These four areas include research related to phonological awareness and literacy acquisition for monolingual English-speakers, cross-linguistic evidence of relationships between phonemic awareness and reading, studies investigating the cognitive correlates of exposure to two languages and finally, oral language and literacy relationships. A great deal of current research in literacy acquisition has clearly established that phonemic awareness and an understanding of the alphabetic principle are strong predictors of reading acquisition in English-speaking children. Additional studies have also revealed that instruction that focuses on both phonemic awareness and the alphabetic principle improves children's performance on a number of phonological tasks and reading performance (Ball & Blachman, 1988; Bradley & Bryant, 1985; Byrne & Fielding-Barnsley, 1989; McGuiness, McGuiness, & Donahue, 1995; Tunmer, Herriman, & Nesdale, 1988). Although fewer in number, there are also studies that examine the relationship of phonemic awareness and the alphabetic principle in learning to read in languages other than English. These studies have also found a relationship between phonemic awareness, the alphabetic principle and reading acquisition for languages including Spanish (Carillo, 1994), Portuguese (Morais, Cary, Algeria & Bertelson, 1980), Swedish (Torneus, 1984), Italian (Cossu, Shankweiler, Liberman & Katz, 1988), Dutch and Turkish (Verhoeven, 1990), and Danish (Lundberg, Frost & Petersen, 1988). It appears that phonemic awareness is a competency related to reading acquisition across a broad range of languages. Research related to bilingualism and reading has revealed metalinguistic benefits resulting from exposure to two languages. Bilingual advantages have appeared on metalevel tasks including word awareness, syntactic knowledge, word recognition and phoneme analysis and manipulation (Campbell & Sais, 1995; Diaz, 1985; Durgunoglu, Nagy, Hancin-Bhatt, 1993; Gonz & Kodzopeljic, 1991; Mattingly, 1984; Rubin & Turner, 1989; Verhoeven, 1990; Yelland, Pollard & Mercuri,

1993). A final area of research suggesting that English learners may be able to learn English phonemic awareness and the alphabetic principle examines oral proficiency and reading. Studies with both monolingual and bilingual children indicate a limited relationship between oral language proficiency and beginning reading (Dickinson & Snow, 1987, Durgunoglu, Nagy & Hancin- Bhatt, 1993; Verhoeven, 1990).

Present Study

The present study is of theoretical interest because it permits consideration of relationships among metalevel phonetic and phonemic capabilities, first and second language acquisition and instruction. If the ability to benefit from phonemic awareness and alphabetic principle training is closely linked to overall language competency in the target language (English), this suggests that phonemic awareness is a linguistic competency closely connected to acquisition of a specific language. If, on the other hand, children who are acquiring English can benefit from phonological instruction delivered in English, in spite of their limited English language competence, it would suggest that phonology-related abilities may be (1) associated with acquisition of the primary language and somehow made available in second language contexts, (2) a manifestation of some more abstract, phonetic linguistic competence, somewhat independent of a specific phonemic code, or (3) a general cognitive competence that facilitates analysis and manipulation of phonetic elements.

The investigation of phonemic awareness and the alphabetic principle instruction, delivered in English to English language learners, is also of immense instructional importance. Most teachers in classrooms populated by significant numbers of children who are learning English are monolingual speakers of English, and many of these same classrooms are composed of children from several primary language communities. Thus, the ability to deliver instruction aimed at developing these critical metalevel skills (phonemic awareness and the alphabetic principle) in the primary language is limited. In addition, many educators are concerned that children who have limited English proficiency cannot benefit from English language literacy instruction particularly when it focuses on these more abstract metalevel linguistic capabilities and where the language of instruction itself is more decontextualized and cognitively demanding. Empirical investigation of these issues is of timely and critical importance.

Method

Participants. Twenty-seven kindergarten children attending an afternoon kindergarten in a suburban northern California school served as the intervention class. This was the entire class. Sixteen of these children spoke Hmong as their primary language and thirteen of the children were monolingual English speakers. There were four children in the classroom that had been identified for Special Education services. Every child in the classroom qualified for free meals given at the school. The comparison class was another afternoon kindergarten class with twenty-nine students. Seventeen of these children spoke Hmong as their primary language, one spoke Lao, and the remaining eleven students spoke were monolingual English speakers. Two additional comparison classes in the same school became available well into the study and were demographically like the two original classrooms.

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Materials

Assessment Tasks. Children were individually assessed on six tasks prior to and following the instructional intervention. These tasks included the digit span subtest of the WISC-R, a rhyme task, a segmentation task, a blending task, and measures of both letter name and letter sound knowledge. The digit span subtest served as a measure of verbal working memory and was administered according to the test manual with the exception that two practice items were included. Each of the Hmong speaking students was also assessed on their English language proficiency using the Pre-LAS test. The test was given according to the test manual. The rhyme, segmentation and blending tasks served as measures of phonemic awareness. Hmong and English versions of these tasks were developed. For the English rhyme task, children were presented with ten high frequency words of two-four phonemes for which there were several real word rhyming possibilities. The children were asked to orally produce a word that rhymed with the stimulus word. In the Hmong version, the ten stimulus words were also high frequency with real word rhyme possibilities, but these words were all two-phoneme words as most words in Hmong contain only two phonemes. The blending and segmentation tests each consisted of ten two-phoneme words presented orally one at a time. For the Hmong version of these tasks, ten item lists with the same initial consonants as the English version were created. Of course the English and Hmong stimulus words had different meanings. For the segmentation task children were presented with the stimulus word and asked to say the word slowly in "robot talk" where the word was divided into the two phonemes. The blending task required children to listen to the two phonemes presented slowly with a two second interval and then to "speed it up" and repeat the phonemes together. On the letter name and letter sound measures children were shown upper and lowercase letters of the alphabet and asked to give the letter name and then the "sound that the letter stands for."

Instructional activities. One 20-minute standard lesson format was created for both the phonemic awareness strand, and the alphabetic principle strand of instruction. Each day's phonemic awareness lesson included a rhyme portion, followed by a segmentation portion using onset-rime and ended with a blending portion. For the alphabetic principle lessons, a sound was introduced followed by articulatory and kinesthetic exploration of the sound and ending with introduction of the grapheme that stood for each sound and instruction on how to print the grapheme. A variety of follow-up activities were developed involving Dr. Suess books, poems, sound manipulation and play, games, oral communication, children's names, big books and printing activities.

Procedure

Sociocultural study. The first four weeks of the study were spent (1) observing and interacting with the children and adults in the classroom and (2) finding out more about the cultural/familial backgrounds of the children. A variety of rhyming, blending segmenting and alphabet sound tasks were tried informally with children individually and in small groups. Conversations were held with the children's teacher, the Hmong-speaking bilingual associate and English-speaking aides in the classroom regarding the family background, academic level and learning profiles of the children individually and as a group. Contrastive analysis of English and Hmong was done through both scholarly reading and interaction with the Hmong-speaking adults in the classroom. A family literacy interview was conducted in Hmong in the homes of the Hmong-speaking children and assessed family language use, schooling, home literacy material and beliefs regarding both Hmong and English language in the home and school. Similar information was collected for

the English-speaking children from the children themselves and the English speaking teaching personnel in the classroom. From all these sources of data we determined that our instruction should begin at a very elementary level with the use of rhymes, articulatory cues, attention to building and understanding of the language of instruction (e.g. "sound", "word", "tongue", "lips", "teeth", "rhyme"), short words when possible, how to attend and learn in whole group settings, pairing more proficient with less proficient English speakers, and allowing for a lot of response from the children.

Intervention Instruction. Children received approximately 20-minute lessons on both phonemic awareness and the alphabetic principle four to five times a week for eight weeks. The lessons followed the standard lesson format described above and were delivered in English by the authors of the study in a whole group context. Sheltered English techniques including slower pace, gesturing and simplified syntax were used. All children used individual mirrors for exploring articulation of phonemes and sound-counting tiles to support segmenting and blending during lessons. English words, Hmong words and nonword responses for rhymes and initial and final consonant responses from the children were accepted. Continuant sounds were introduced first with approximately two sounds covered each week with regular review of all previously taught sounds.

Comparison Instruction. Literacy instruction in this class included a daily alphabet song or chant. The songs and chants required children to name letters or produce the phonemes. Each day a reading specialist delivered a 30- minute whole group lesson on letter names/ sounds or rhymes based on a related literature selection. One letter of the alphabet would be the focus each week. There was no scope and sequence for the letters that were introduced. The majority of the literacy instruction focused on children's oral language and comprehension skills related to the literature selection. There was no instruction on either segmenting or blending. This pattern of instruction had occurred in the classroom for the entire school year.

Results and Discussion

The efficacy of the explicit phonemic awareness instruction was examined by t-tests. These tests revealed that, as expected, there was a significant improvement in the children's rhyming, segmenting and blending skills in the intervention classroom from pretest to posttest. Both English speakers and English learners learned to manipulate the phonemic features of English that they had been explicitly taught, despite the fact that many of them had limited proficiency with the language (see attached tables). Children in the earliest stages of second language development, as measured by the Pre-LAS (level 1), benefited in the same manner as the more English proficient students.

Multivariate analyses comparing the intervention class with both the single original comparison class and the combined three comparison classes indicated that the children in the intervention class outperformed their comparison class counterparts on the phonemic awareness measures but not the letter name and letter sound measures. Significant interactions revealed that the English learners in the intervention class who received explicit phonemic awareness instruction scored significantly higher than the English learners in the comparison classes on rhyming and blending and were not significantly different from English speakers in either class. The intervention instruction was therefore particularly beneficial to English learners (see attached figures). This study demonstrates that one group of English language learners who are at the very initial stages of English language acquisition and who are from very low socioeconomic status

backgrounds can learn phonemic awareness through explicit English phonemic awareness instruction.

The transfer of phonemic awareness from one language to another was also examined and was based only on performance of the English learners in the intervention class where the phonemic awareness measures were administered in both Hmong and English. Pretest to posttest t-test comparisons revealed significant improvement in Hmong rhyming and marginally significant improvement in Hmong segmenting and blending even though children received only phonemic awareness instruction in English. While previous studies have indicated L1 to L2 phonemic awareness transfer, this is the first study that we are aware of that demonstrates some degree of L2 to L1 transfer. If the English learner children were to receive Hmong language literacy instruction, the Hmong phonemic awareness that they acquired from English instruction should support their initial learning.

To examine the relationship between English oral proficiency and learning English phonemic awareness through explicit instruction, correlations and hierarchical regression analyses were computed. There were no significant correlations between English oral proficiency and phonemic awareness performance. In addition, English oral proficiency scores did not independently account for a significant proportion of variance in regression analyses where the Oral proficiency scores were forced into the equation at the first step. Only the other phonemic awareness scores predicted phonemic awareness scores. These results suggest that phonemic awareness instruction for English learners doesn't need to be delayed for children who have low levels of English oral proficiency. Beginning reading-related instruction can proceed in tandem with oral language development.

The results of the alphabetic principle instruction were not as strong as the results for the phonemic awareness tasks. Although the children showed significant improvement form pretest to posttest, they were not significantly better than the comparison class. It is unclear, however, if the performance of the comparison class was due to the type of instruction, or its duration. The children in the comparison class had received daily instruction on the alphabetic principle throughout the year.

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Table 1

English Rhyming, Segmenting and Blending Pretests and Posttest Means and Standard Deviations

For the Intervention Class

Measure	Overall	English Primary Language	Non-English Primary Language
Rhyming			
Pretest			
Posttest	1.23 (1.97) 6.46 (3.36)*** (n = 26)	2.33 (2.34) 7.10 (3.66)*** (n= 10)	.44 (.89) 6.06 (3.21)*** (n= 16)
Segmenting			
Pretest	.23 (.71)	.50 (1.08)	.11 (.25)
Posttest	3.19 (3.89)*** (n=26)	3.90 (4.38)* (n= 10)	2.75 (3.64)** (n= 16)
Blending			
Pretest	.65 (1.01)	1.00(1.33)	.43 (.89)
Posttest	3.46 (3.31)*** (n=26)	3.40 (3.40)** (n= 10)	3.50 (3.37)** (n= 16)
Letter Names			
Pretest	17.15 (16.30)	16.62 *(15.25)*	16.52 *(14.52)*
Posttest	28.81 (16.67)*** (n = 26)	30.95 (17.21)*** (n= 10)	29.10 *(15.72)* (n= 16)
Letter Sounds			
Pretest	.92 *(2.50)*	1.83 (3.49)	.12(5.00)
Posttest	4.73 (5.96)*** (n = 26)	5.50 (6.65)** (n= 10)	4.25 (5.64)*** (n= 16)

* significant difference between pretest and posttest at p <= .05 level
** significant difference between pretest and posttest at p <= .01 level

Table 2

Rhyming Segmentang and Blending Means and Standard Deviations BV Class and Language Proficiency

	Intervention Class		Comparison Class	
Measure	English Learners	English Proficient	English Learners	English Proficient
Rhyming	6.06 (3.21) (n= 16)	7.10 (3.66) (n= 10)	1.89(2.65) (n= 18)	7.27 (2.80) (n=11)
Overall	6.58* (3.66) (n = 26)		4.58 (2.50) (n = 29)	
egmenting	2.75 (3.64) (n= 16)	3.90 (4.38) (n= 10)	11 (32) (n= 18)	.45 (93) (n= 11)
Overall	3.33*** (8.50) (n = 26)		.28 (2.50) (n = 29)	
Blending	3.50 (3.36) (n= 16)	3.40 (3.41) (n= 10)	.22 (.54) (n= 18)	1.45 (1.57) (n= 11)
Overall	3.45*** (2.50) (n =26)		.83 (3.11) (n = 29)	

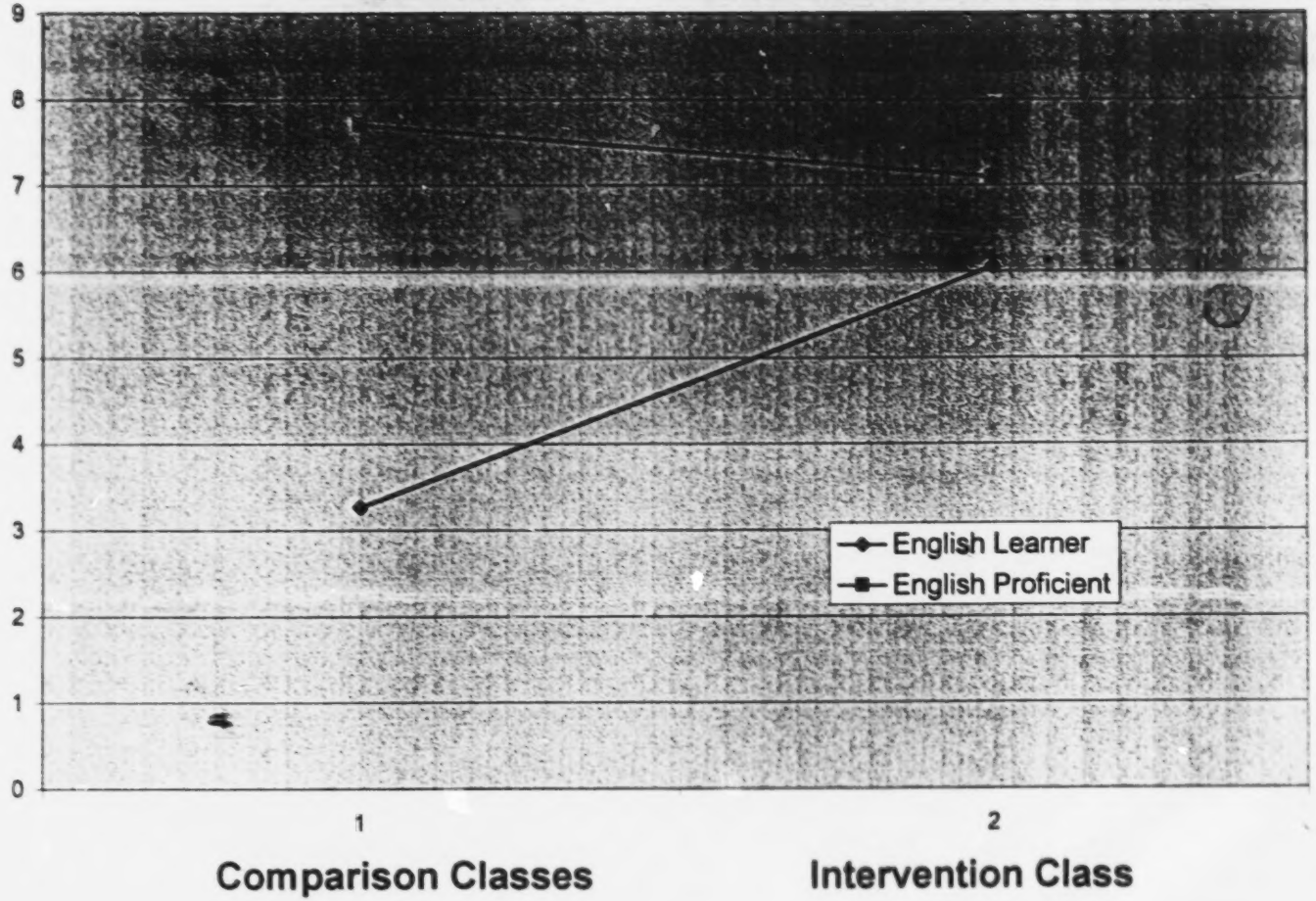
* significant difference between groups at $p < .05$

* * significant difference between groups at $p < .001$

Table 3
Correlations Between English Oral Proficiency and Phonemic Awareness Measures After Intervention

Variable	English Oral Proficiency		
	All English Learners	Intervention Class English Learners	Comparison Class English Learners
1. English Rhyming	05 (n=32)	36 (n=16)	03 (n=17)
2. English Segmenting	18 (n=32)	49 (n=16)	06 (n= 17)
3. English Blending	11 (n=32)	43 (n= 16)	46 (n= 17)
4. English Verbal Memory	22 (n=32)	41 (n= 16)	21 (n= 17)
5. Hmong Rhyming		37 (n= 16)	
6. Hmong Blending		41 (n= 16)	
7. Hmong Segmenting		05 (n= 16)	
8. Hmong Verbal Memory		-16 (n= 16)	

Rhyming Scores for English Learner and English Proficient Children in the Comparison and Intervention Classes



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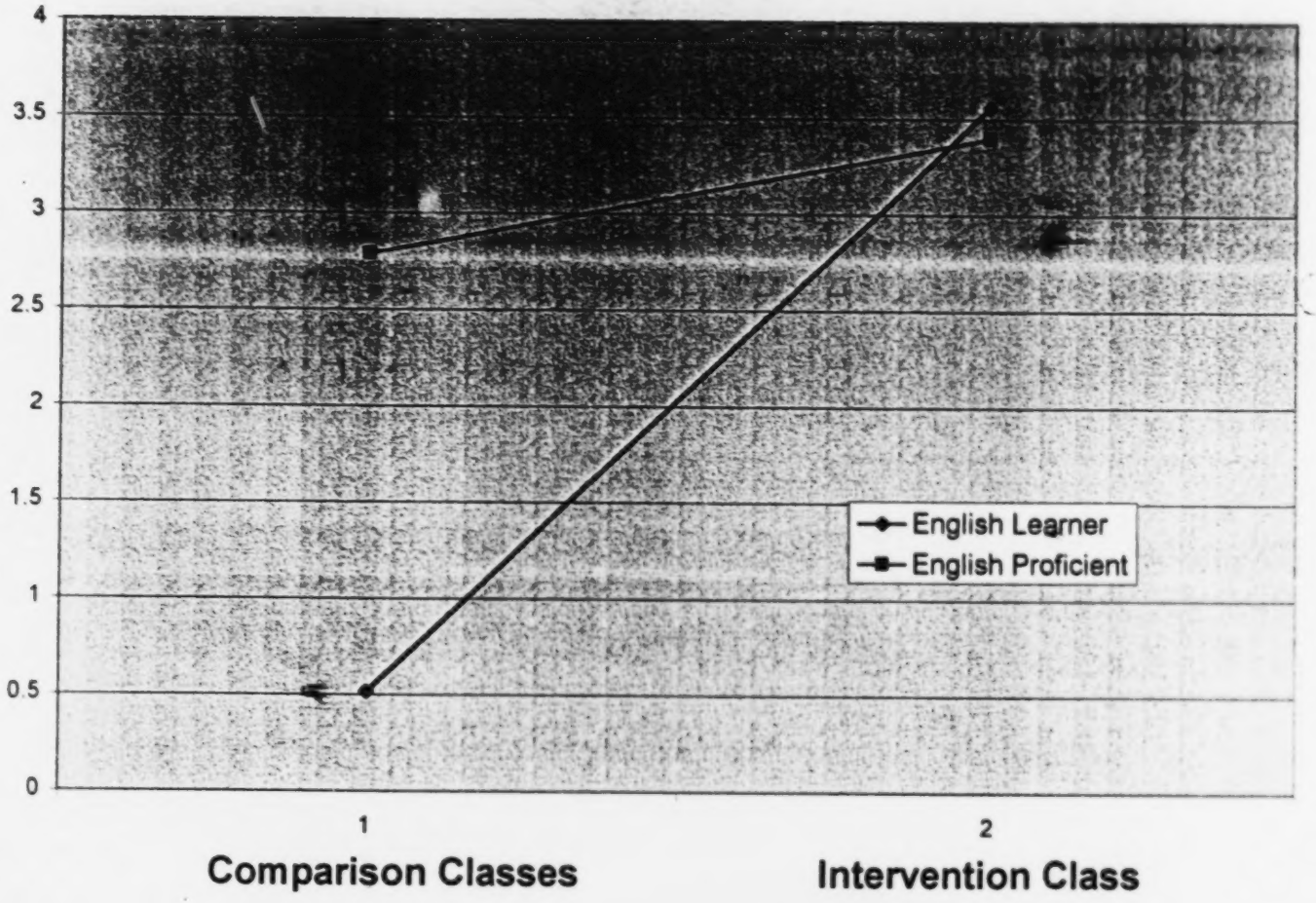
Blending Scores for English Learner and English Proficient Children in the Intervention and Comparison CLasses



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